AMENDMENT TO THE CLAIMS:

The following claim set replaces all prior versions, and listings, of claims in the application:

1. (currently amended) Method for producing microchips by ~~using~~ immersion lithography, comprising forming microchips in an ~~characterised in that the~~ immersion fluid which comprises an additive so that the refractive index of the immersion fluid is at least 1% higher than the refractive index of the fluid not comprising the additive at a wavelength of 193 nm.

2. (canceled)

3. (currently amended) Method according to claim 1, wherein ~~characterised in that~~ the additive is soluble in the immersion fluid.

4. (currently amended) Method according to claim 3, ~~characterized in that~~ wherein the immersion fluid comprises 1 - 70 wt.% of the soluble additive.

5. (currently amended) Method according to claim 1, ~~characterized in that~~ wherein the additive is insoluble in the immersion fluid.

6. (currently amended) Method according to claim 5, ~~characterized in that~~ wherein the immersion fluid comprises as the insoluble additive nano particles.

7. (currently amended) Method according to claim 6, ~~characterized in that~~ wherein the nano particles have an average size that is 10 times smaller than the wavelength of the exposure light.

8. (currently amended) Method according to claim 6, ~~characterized in that~~ wherein the nano particles have an average size of less than 100 nm.

9. (canceled)

10. (canceled)

11. (currently amended) Method according to claim 6, ~~claim 10, characterized in that~~ wherein the nano particles comprise ~~comprising~~ an Al 3+-compound ~~are used~~.

12. (currently amended) Method according to claim 6, ~~claim 10, characterised that~~ wherein the nano particles are comprised of fused amorphous SiO_2, MgO, nanodiamond, and/or $MgAl_2O_4$ nano particles comprising a mixture of fused amorphous SiO_2 and Al_2O_3 ~~are used~~.

13. (currently amended) Method according to claim 1, ~~characterized in that~~ wherein the fluid comprises transparent particles having a refractive index higher than the refractive index of the pure fluid and the additive in an amount, such that the refractive index of the fluid comprising the additive is equal to the refractive index of the transparent particles.

14. (canceled)

15. (canceled)

16. (original) Method according to claim 1 ~~characterized in that~~ wherein the method comprises the steps of:

a) transporting the immersion fluid after being used in the production of a microchip to a cleaning unit,

b) cleaning the immersion fluid

c) recycling the cleaned immersion fluid into the process for producing the chips.

17. (canceled)

18. (new) Method according to claim 1, wherein the immersion fluid is an alkane.

19. (new) Method according to claim 18, wherein the alkane comprises 6 to 10 carbon atoms.

20. (new) Method for producing microchips by immersion lithography, comprising forming microchips in an immersion fluid which comprises an additive comprising insoluble nano particles so that the refractive index of the immersion fluid is higher than the refractive index of the fluid not comprising the additive, wherein the immersion fluid is an alkane.

21. (new) Method according to claim 20, wherein the alkane comprises 6 to 10 carbon atoms.

22. (new) Method according to claim 20, wherein the refractive index of the immersion fluid is at least 1% higher than the refractive index of the fluid not comprising the additive.

23. (new) Method according to claim 20, wherein the nano particles have an average size that is 10 times smaller than the wavelength of the exposure light.

24. (new) Method according to claim 20, wherein the nano particles have an average size of less than 100 nm.

25. (new) Method according to claim 20, wherein the nano particles comprise an Al 3+-compound.

26. (new) Method according to claim 20, wherein the nano particles are comprised of fused amorphous SiO_2, MgO, nanodiamond, and/or $MgAl_2O_4$ nano particles comprising a mixture of fused amorphous SiO_2 and Al_2O_3.

27. (new) Method according to claim 20, wherein the fluid comprises transparent particles having a refractive index higher than the refractive index of the pure fluid and the additive in an amount, such that the refractive index of the fluid comprising the additive is equal to the refractive index of the transparent particles.

28. (new) Method according to claim 20, which comprises the steps of

a) transporting the immersion fluid after being used in the production of a microchip to a cleaning unit,

b) cleaning the immersion fluid, and

c) recycling the cleaned immersion fluid into the process for producing the chips.

29. (new) Method according to claim 20, wherein the immersion lithography is practiced at a wavelength of 193 nm.

30. (new) Method for producing microchips by immersion lithography at 193 or 157 nm, comprising the steps of:

(a) producing a microchip in an alkane immersion fluid which comprises an additive;

(b) transporting the immersion fluid after being used in the production of a microchip according to step (a) to a cleaning unit;

(c) cleaning the immersion fluid in the cleaning unit;

(d) measuring the refractive index of the immersion fluid directly or indirectly;

(e) adjusting the refractive index of the immersion fluid at a predetermined value by adding extra, pure fluid or adding extra additive to the immersion fluid; and

(f) recycling the cleaned immersion fluid into step (a).

31. (new) Method according to claim 30, wherein the refractive index of the immersion fluid is at least 1% higher than the refractive index of the fluid not comprising the additive.

32. (new) Method according to claim 30, wherein the alkane comprises 6 to 10 carbon atoms.

33. (new) Method according to claim 30, wherein the additive is soluble in the immersion fluid.

34. (new) Method according to claim 33, wherein the immersion fluid comprises 1 - 70 wt.% of the soluble additive.

35. (new) Method according to claim 30, wherein the additive is insoluble in the immersion fluid.

36. (new) Method according to claim 35, wherein the insoluble additive comprises nano particles.

37. (new) Method according to claim 36, wherein the refractive index of the immersion fluid is at least 1% higher than the refractive index of the fluid not comprising the additive.

38. (new) Method according to claim 36, wherein the nano particles have an average size that is 10 times smaller than the wavelength of the exposure light.

39. (new) Method according to claim 36, wherein the nano particles have an average size of less than 100 nm.

40. (new) Method according to claim 36, wherein the nano particles comprise an Al 3+-compound.

41. (new) Method according to claim 36, wherein the nano particles are comprised of fused amorphous SiO_2, MgO, nanodiamond, and/or $MgAl_2O_4$ nano particles comprising a mixture of fused amorphous SiO_2 and Al_2O_3.

42. (new) Method according to claim 36, wherein the fluid comprises transparent particles having a refractive index higher than the refractive index of the pure fluid and the additive in an amount, such that the refractive index of the fluid comprising the additive is equal to the refractive index of the transparent particles.

43. (new) An immersion lithography fluid which comprises an immersion fluid and an additive so that the refractive index of the immersion fluid is at least 1% higher than the refractive index of the fluid not comprising the additive at a wavelength of 193 nm.

44. (new) An immersion lithography fluid according to claim 43, wherein the immersion fluid is an alkane.

45. (new) An immersion lithography fluid as in claim 44, wherein the alkane comprises 6 to 10 carbon atoms.

46. (new) An immersion lithography fluid according to claim 43, wherein the additive comprises insoluble nano particles.

47. (new) An immersion lithography fluid which comprises an additive comprising insoluble nano particles so that the refractive index of the immersion fluid is higher than the refractive index of the fluid not comprising the additive, wherein the immersion fluid is an alkane.

48. (new) An immersion lithography fluid as in claim 47, wherein the alkane comprises 6 to 10 carbon atoms.